THE STANDARDS FORUM

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Your publication for news about the DOE Technical Standards Program

Inside this issue:

News from the DOE Technical Standards Program Office (TSPO)

Joint Responsibility Established for Two DOE Technical Standards

In June 2001, two U.S. Department of Energy (DOE) preparing activities, DP-45 and EH-53, agreed to jointly share responsibility for the technical development and administrative maintenance of two DOE Technical Standards. The standards are DOE-STD-3009-94, *Preparation Guide for Nonreactor Nuclear Facility Safety Analysis Reports*, and DOE-STD-3011-94, *Guidance for Preparation of DOE 5480.22 (TSR) and DOE 5480.23 (SAR) Implementation Plans*. Currently, these standards are being reviewed under the DOE Technical Standards Program Procedures (TSPPs) five-year "sunset" review.

Dae Chung, DP-45, 301-903-3958, **Dae.Chung@ns.doe.gov**, and Richard Stark, EH-53, 301-903-4407, **Richard.Stark@eh.doe.gov**, are handling the activities of the documents. If you have any questions or comments on the joint responsibility, contact either of the individuals listed above.

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Including Standards in the Education of Future Engineers

By William E. Kelly

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Abstract

In the United States, new criteria for accrediting engineering programs (C2000) are being implemented and there are excellent opportunities to encourage integration of standards into engineering curricula. Under the new criteria, specifically Criterion 4, engineering standards must be incorporated in the major design experience. However, with the globalization of engineering practice, standards have meaning far beyond what they have had in the past and it will be shown how they provide a natural link to the general education component of engineering curricula.

Introduction

Accreditation of engineering programs in the United States is done through the Accreditation Board for Engineering and Technology (ABET) with the actual accreditation process administered by the Engineering Accreditation Commission (EAC) of ABET. The purpose of accreditation is to identify those engineering programs satisfying specified minimum criteria.

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Did you know . . .

Adobe Acrobat Reader 5.0 is now available on Adobe's Web site. Portable Document Format (PDF) files created by the TSPO are best viewed with Reader 5.0. Download the free Reader at Adobe's Web site.

http//www.adobe.com/products/acrobat/readstep.html

Including Standards . . . (Continued from page 1)

There had been a number of studies calling for changes in engineering education with some specifically calling for changes in the ABET criteria. One argument for changing the criteria had been that they had become complex and rigid to the point that they could be preventing needed innovation in engineering education. Industry generally expresses the view that engineering graduates are well qualified technically but lack the "soft" engineering skills: communications, leadership, the ability to work on and lead teams and so on. As a result, ABET developed and is implementing new criteria for accrediting engineering programs—Criteria 2000; these criteria are mandatory for all programs having general reviews this fall (2001). The new criteria are receiving broad support from the engineering community in the United States and, in fact, around the world.

At the same time that Criteria 2000 was being developed, there was an interest in increasing the exposure of all engineering students to standards. This may have been driven in part by the National Technology Transfer and Advancement Act of 1995 (Public Law 104-113). At about that time, as I recall, the Institute of Electrical and Electronics Engineers (IEEE) proposed that all engineering students be required to have some exposure to standards. This change was proposed for incorporation into the then current (1996) accreditation criteria. Since it was believed that Criteria 2000 was likely to be adopted as the new criteria for all engineering programs and since Criteria 2000 includes engineering standards as a requirement for the culminating design experience, the proposed change was not considered.

Engineering societies have recognized the importance of standards in international trade and there is general agreement that US engineers need to be more involved in standards development. This implies that engineering graduates should have at least a rudimentary knowledge of standards as they affect engineering design and practice in general and some knowledge specific to their specialized field.

In discussing what the federal government can do to address standards setting issues, the report by the U.S. Congress Office of Technology Assessment (USCOTA) (1992) notes that the federal government could help by enhancing federal support of academic research related to standards. However, according to USCOTA ". . . few schools provide course materials or sponsor research focusing on standards."

The American Society for Engineering Education (ASEE) holds an annual conference featuring what is hot in engineering education. For example, the new ABET criteria C 2000 is a hot topic. In contrast, engineering standards were discussed in very few papers presented over the last five years.

"There appears to be little in the way of guidance for engineering educators anxious to include standards in their courses."

Including Standards

Relatively few, if any, concerns were expressed to the EAC over including engineering standards explicitly in Criteria 2000. Standards are included in Criteria 2000 as part of Criterion 4. Professional Component which states in part:

> *The curriculum must prepare students for engineering practice culminating in a major design experience based on the knowledge and skills acquired in earlier coursework and incorporating engineering standards and realistic constraints that include most of the following considerations. economic, environmental, sustainability, manufacturability, ethical, health and safety, social, and political. (Underlining added for emphasis)*

What is an engineering standard? Why do we have standards and how did they come about? Who enforces standards? How are standards established? There appears to be little in the way of guidance for engineering educators anxious to include standards in their courses. Today there is a tendency to integrate design throughout the curriculum and it would seem desirable to introduce the general concepts of standards to students early in heir program with the field-specific details left to upper division courses. However, there is very little available in textbooks or in any generally accessible format, e.g., the worldwide web, that an interested engineering educator could use to introduce standards to students. Relatively speaking, there is a great deal in the area of ethics, economics, manufacturability, health and safety, and sustainability.

Engineering Standards In Design

Some of what students learn about standards could come from the non-technical component of the curriculum as they prepare for the major design experience. Standards are increasingly important in international trade and in the global practice of engineering.

In teaching design, the topic of standards is broad enough to encourage students to consider design in its societal and global context. This should encourage students to think in interdisciplinary ways. For example, engineering work increasingly involves the use of the worldwide web and moving design documents around the world. This means that electronic documents must be compatible and this means standards. In teaching introduction to computer- aided de-

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No Exemptions to Technical Standards!

In the past few months, I have had several conversations with DOE and contractor personnel on the following question, "What is the process for getting an exemption to a technical standard?" My response is always the same, "You don't get exemptions to technical standards! Doing things differently from the criteria in a standard requires some level of safety review, ranging from a simple justification statement and local review up to utilizing the unreviewed safety question (USQ) process and (when there are safety implications for the USQ) submission of a safety analysis supporting a request for DOE approval." Of course, I follow this up with a detailed explanation—here is a summary of the essential points of the discussions with a focus on nuclear safety standards.

First of all, the use of technical standards [i.e., DOE Technical Standards and voluntary consensus standards (VCS) developed by Standards Development Organizations (SDOs) such as American Society for Testing and Materials (ASTM), American Society of Mechanical Engineers (ASME), American Nuclear Society (ANS), and Institute of Electrical & Electronics Engineers (IEEE)] is voluntary in nature. However, standards can be "required" for use within DOE in two general ways: (1) mandated in an order (or rule, policy, or manual) that is applied to or accepted by a contractor, and (2) committed to contractually by a contractor. DOE has very few (if any) directly mandated technical standards; however, Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), Food & Drug Administration (FDA), and other regulatory Federal agencies do mandate specific standards that may apply to DOE facilities in their rules. In DOE, we most often recognize certain standards as "acceptable" means for complying with a specific requirement.

Generally, a DOE contractor identifies specific technical standards it will use only in the lower tiers of "Work Smart Standards" sets, Standards/Requirements Identification Documents (S/RIDs), and various types of safety analysis and hazard assessment documents. Most often, these documents do not "reach down" far enough to cite specific standards. The principle use of technical standards is to provide a template for writing procedures that will directly apply to "doing the work" [i.e., some aspect (including specifications) of design, operations, maintenance, emergency operations, or decommissioning]. The applicability and the quality of similar standards are relative and can vary depending on where and how they are used (e.g., appropriate for a reactor but not an accelerator). Remember, standards become outdated, work conditions change, facility missions change, new technologies develop, old technologies are replaced, and related standards change.

Once a standard is selected for use by an organization, facility, or activity, it may be adopted "in whole" or "in part." A standard adopted "in whole" means that the intent of the standard can be met only if all of the "shall" statements (and "will" and "must" statements) are adopted and applied. This convention is more than 100 years old in American standards applications and is used by all U.S. SDOs and Federal agencies in tens of thousands of standards! So, any bureaucrat out there with the bright idea of using a different convention needs to stop thinking about it right now! A standard adopted "in part" means that only specific or applicable portions of the standard are selected or applied (using the same "shall" convention), and (or) specific sections are excluded. For example, a nuclear safety standard might be adopted with the exception of a part dealing with "criticality" of materials if such materials were not used at and were not stored at that facility.

When it is decided to use selected parts, exclude selected parts, or substitute for selected parts of a technical standard to meet specific needs, there are some limited technical standards processes that can be employed to support these needs. These processes involve formally changing the standard you want to use and include structured efforts to revise or supplement the standard through an accepted process (e.g., those processes established procedurally by ANS, ASTM, ASME, other SDOs, and the DOE TSP for their respective standards). Such efforts are generally time-consuming and intensive (several months to a year or two), but they help ensure openness, due process, balance of interest, and transparency. If you need to initiate a change in a standard, contact your friendly Technical Standards Program Office (TSPO) or your organizational Technical Standards Manager (TSM), and we'll help initiate the contacts and the process.

In some instances, a standard may stipulate general criteria but not provide or define supporting specifics (e.g., suitable for working level procedures). In such cases, the user can choose to supplement with other relevant "detail-level" standards, if available. If none are suitable or useable (or don't exist!), then a new standard can be developed (contact the TSPO for help), or local procedures can be developed to further define the necessary criteria.

Procedures are an important way to implement standards, but they shouldn't be (actually, they can't be) used to circumvent an accepted standard. For example, if a standard states "K effective (k_{eff}) shall be less than 1.0", you can't write a procedure that says, "It's OK as long as K effective (k_{eff}) doesn't exceed 1.5." You need to change or supple-

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Welcome Aboard the TSMC!

The Technical Standards Managers (TSMs) are the backbone of the DOE Technical Standards Program!

These knowledgeable individuals serve as their organization's standards point of contact and contribute to the coordination of Department-wide TSP activities. A great deal of their work time is spent in assuring that standards activities take place in a manner that will promote safe, economical, and efficient operations locally and across the DOE complex.

With nearly 90 active and mobile people involved in TSM activities, it can be a daunting task just to keep up with the retirements and reassignments affecting the TSM roster. This "Welcome Aboard" feature is designed to introduce you to the new TSMs and help you keep abreast of the rapidly changing make-up of the Technical Standards Managers' Committee (TSMC).

The TSMC welcomes the following recently added members.

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News from the TSPO . . . (Continued from page 1)

Results of the FY 2001 Sunset Review

The TSPPs (DOE-TSPP-9) provide guidance for the maintenance of DOE Technical Standards, including a review every five years (Sunset Review) to confirm the continued need and technical viability of these documents. In accordance with this guidance, the TSPO compiled a list of all active DOE Technical Standards that were five years old or older within fiscal year 2001. In December 2000, the FY 2001 Sunset Review report was distributed to the Technical Standards Managers (TSMs) for the Preparing Activities who are directly responsible for the documents. As a result of the FY 2001 review, the following standards maintenance actions are taking place.

Revision in Progress:	6
Cancellation Pending:	4
Cancellation in Progress:	12
Proposed for Cancellation:	12
Reaffirmation in Progress:	23
No update action currently registered:	11

The FY 2001 report will be posted on the Technical Standards Program Web Site, **http://tis.eh.doe.gov/**. Please contact your TSM or Amy Bush, ORNL, **bushar@ornl.gov**, 865-576-2395, for more information.

THE STANDARDS FORUM

Editor: Marsha McGinnis, **mcginnismp@ornl.gov**

Distribution: *The Standards Forum* is an electronic newsletter available from the TSP Web Site (**http://tis.eh.doe.gov/techstds/**). To update your mailing and e-mail addresses, please contact Amy Bush, ORNL, 865-576-2395, Fax 865-574-8481 **bushar@ornl.gov**.

Comments: If you have any questions or comments please contact Rick Serbu, EH-53, 301-903-2856, **Richard.Serbu@eh.doe.gov**. If you have any questions or comments on DOE Technical Standards projects, please call Don Williams, ORNL, 865-574-8710, **williamsdljr@ornl.gov**.

Publication: ORNL and DOE's ES&H Technical Information Services posts *The Standards Forum* quarterly for the DOE Technical Standards Program at **http://tis.eh.doe.gov/techstds/**.

Including Standards . . . (Continued from page 2)

sign and drafting there is ample opportunity to talk about the relevant standards. Similarly, in introductory programming, students should be made aware of the role standards play.

By including standards in discussions of design, there is ample motivation to review some of the background and history of standards and standards making in the United States. For example, the over 1,000 boiler explosions a year that led ASME to write a comprehensive boiler code in 1910 and the role of standardization in facilitating the connection of the nation's railroads (USCOTA, 1992).

In discussions of engineering standards and what they mean there are clear differences in meaning in different fields. Students will certainly see the application to their specific field in upper level design courses. At the introductory level, the framework defined by USCOTA (1992) and reproduced in Table 1 may be helpful. Engineering students should be helped to see standards in the proper context if they can see the overall structure of the processes. Examples from different fields should be given particularly as they affect the design process.

Discussion of engineering standards is going to be colored by the different meaning standards will have to individual faculty. The interest in standards has been fueled by the "globalization" of the world economy—the need for companies to compete internationally—and the rapid growth in telecommunications and other high-tech areas. Examples of product standards include fuel economy standards and airbag requirements both affecting the design of automobiles. Examples of process standards include standards for electronic data exchange. Also, if engineers are to become more involved in standards setting they should be introduced to the various standard setting processes.

Much of the discussion of standards in the U.S. prior to the recognition of their importance in international trade was on health and safety standards which are seen by some as economically burdensome. For example, Eaton (1999) comments that getting an air emissions permit for a major paint-shop change for an automobile manufacturing facility could take as long as half of the three-year product-introduction cycle. This one example illustrates very well the interplay among engineering standards and the constraints that students must be aware of in design.

Graedel and Allenby (1995) discuss environmental considerations in the design of industrial processes and procedures. Today we are moving from treatment of pollutants resulting from a manufacturing process to prevention of pollution in the first place. Standards to prevent pollution might be applied to the manufacturing process itself but standards that apply to the process of manufacturing can be very controversial. The Internationals Organization for Standardization (ISO) has subgroups of its Technical Committee 207 (TC 207) dealing with life-cycle assessment, environmental guidance for product standards, environmental auditing and labeling. The United Nations is working on policies for energy efficiency standards. Students need to be introduced to these aspects of standards.

Safety standards were first set early in the 1900s, and according to USCOTA (1992), there are now 8,500 standards developed by federal agencies such as EPA, FDA and OSHA. Safety standards are probably most often cited as burdensome to industry, and there has been a great deal of work done on the relations between standards and economics (see Goodstein, 1992).

Table 1. Standards Universe: Type of Standard by Goals

Standardization mechanism	Control	Product/quality	Process/interoperability
Defacto	Warner-amex Database-privacy standards	VCR standards	Language customs Bills of lading Computer interface standards
Regulatory	Auto safety regulations Fuel economy standards	NSA encryption standards Department of Agriculture Product classification standards	Open network architecture standards ETSI standards for European telecommunications standards
Voluntary consensus process	Standards for medical devices Pressure vessel standards Petroleum standards	Refrigerator standards	Map-top protocols for OSI/ standards Standards evolving legislation Electronic data interchange standards

From *Global Standards: Building Blocks for the Future*, March 1992

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Including Standards . . . .(Continued from page 5)

Standards in the General Education Component

"Standards affect or will affect engineering practice in many ways beyond what we have normally considered."

Several of the expected outcomes (C 2000 Criterion 3) are directly related to, or depend on, the non-technical component of curricula including:

(d) an ability to function on multi-disciplinary teams
(f) an understanding of professional and ethical responsibility
(g) an ability to communicate effectively
(h) the broad education necessary to understand the impact of engineering solutions in a global and societal context
(i) a recognition of the need for, and an ability to engage in life-long learning
(l) a knowledge of contemporary issues

Out of a total of 11 expected outcomes, the six listed above appear to be the most directly related to the non-technical component of curricula.

The technical component of curricula is directly tied to the non-technical component by requiring that students consider realistic constraints in their major design including:

economic; environmental; sustainability; manufacturability; ethical; health and safety; social: and political.

Underlined items are items that might be or are considered outside normal engineering course work. However, the professional component must include:

(c) a general education component that complements the technical content of the curriculum and is consistent with the program and institution objectives.

Focusing on standards and general education, how could the two be integrated into an engineering program?

For the six outcomes most closely related to general education:

An ability to function on multi-disciplinary teams—Standards affect or will affect engineering practice in many ways beyond what we have normally considered. For example, standards affect products, services, information technology and intellectual property. The legal and business aspects are very apparent. It should be evident, after even a cursory study of standards in the global marketplace, that although an engineer may have lead responsibility in keeping abreast of standards as they affect company business, the engineer is going to have to continuously consult with business and legal experts to understand the full implications of various standards for a particular business.

An understanding of professional and ethical responsibility—The December 1999 controversy surrounding the World Trade Organization (WTO) meeting in Seattle raised some of the ethical issues related to standards. For example, much of the controversy was related to environmental issues.

An ability to communicate effectively—Global standards is a fertile topic for student papers. For example, most if not all of the realistic constraints that students must consider in design can be found in global standards. Students could be asked to discuss how standards relate to these constraints for a proposed project in their area of interest in a particular part of the world. Much of the background for at least an introductory level paper can be found on the worldwide web.

The broad education necessary to understand the impact of engineering solutions in a global and societal context—In some settings it might be appropriate to introduce students to selected aspects of the globalization of engineering practice to pique their interest in general education topics that would be helpful in understanding the context for engineering solutions.

Admittedly, this is a challenge because of the very limited opportunities that students generally have to choose general education courses. Some courses in engineering may serve this purpose very well. For example, on our campus we have introduced a course on global standards for law and engineering graduate students (ASTM,1999). The intention is to develop a version of this course, or at least some modules, on global standards for undergraduate engineering students.

Engineering colleges need to take the lead in developing these kinds of opportunities for engineering students and for providing opportunities for others on campuses to better understand the role of technology in society (ASEE, 1994).

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Including Standards . . . .(Continued from page 6)

A recognition of the need for, and an ability to engage in life-long learning—The rapid development of global standards in areas such as information technologies should certainly be adequate encouragement for graduates working in those areas to stay abreast.

A knowledge of contemporary issues—The WTO meeting was mentioned earlier as a high-profile contemporary issue that could be the source of discussion of the design constraints and how they are being, or might be, affected by changes in standards. This could be relative to a particular design or in talking about design in general. The current discussion of standards for voting is another example.

What have been presented are ideas and what are needed are materials and examples that faculty can use to bring these topics to the classroom. What should be clear is that the topic of standards is one that is central to design and can be integrated with the general education experience. There are good opportunities to create synergy between the two and a more rewarding educational experience for students and faculty.

Conclusions

Engineering standards are an integral part of engineering design and must be addressed in accredited engineering programs. However, what has been shown here is that standards, in a broad sense, can provide an integrative factor for students' general education experience. To do this effectively, there is a need for course materials, case histories and other resources for use in undergraduate engineering programs. This is an opportunity for the standards community to work together to enhance the standards knowledge of future engineers.

William E. Kelly is Dean of the School of Engineering, Catholic University of America, Washington, D.C., and a founder of the Center for Global Standards Analysis. He can be reached at **wkelly@cua.edu**.

References

- ABET 2000 Engineering Criteria 2000, Third Edition, July, Baltimore, Maryland. (Available on ABET Web site **http://www.abet.org**.)
- ASEE,1994, *Engineering Education for a Changing World*, Washington, D.C., 28pp. (Available on ASEE Web site **http://www.asee.org**.)
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- Goodstein, E.S.1995 *Economics and the Environment*, Prentice Hall, Englewood Cliffs, New Jersey, 575 pp.
- Graedel, T.E. and Allenby, B.R. 1995 *Industrial Ecology*, Prentice Hall, Englewood Cliffs, New Jersey, 412 pp.
- U.S. Congress, Office of Technology Assessment 1992 *Global Standards: Building Blocks for the Future,* TCT-512, Washington, D.C., U.S. Government Printing Office, March, 114 pp.

No Exemptions to Technical Standards! (Continued from page 3)

ment the standard via recognized processes. You also need to perform some sort of safety review to support your position, depending on the hazard and its potential impact. Your procedures can spell out how you implement the "shall" statements in the standard. They can also provide missing details. As an example, it could say something like "For materials not listed in the standard, follow Section 3.1 of Facility Procedure 9-12." (Remember, if a procedural supplement can affect safety, some form of safety analysis may be required too!) Take a look at Chapter I, Section 5, of the *Technical Standards Program Guide* (DOE G 252.1-1) for some general guidance on procedures and their relationship to standards.

The decision to use any particular standard (in whole or in part) that has safety, environmental, or health impacts should be made by technically competent individuals with a technically competent management review and probably an independent review. You can look at Chapter IV, Section 4, of the TSP Guide (on either the TSP Home Page or the Directives System Home Page) for some guidance [developed at the behest of Defense Nuclear Facility Safety Board (DNFSB) staff] that addresses "How should a VCS or Technical Standard be accepted as adequate for a DOE application?"

Deciding what safety standards to use and how to use them is a basic safety process. The other critical point is this: if you intend to do something different from an accepted standard, and in particular if the provisions of the standard affect safety (worker, environmental, health, safety systems, etc.), you are then impacting safety, which puts you in the safety analysis world and not the standards administration world!

— Rick Serbu

Standards Actions

September 2001

Standards Actions

DOE Technical Standards Program Document Status

08-30-2001

Activity Summary

In Conversion—4

In Preparation—41

Out for Comment—15

Published this Month—3

5-year Review Status

Revision in Progress—6

Reaffirmation in Progress—23

Cancellation Pending—4

Cancellation in Progress—12

Proposed for Cancellation—12

No Current Action—11

Inside this issue:

Published DOE Technical Standards

The following DOE Technical Standards were recently printed and posted on the TSP Web Site:

- DOE-HDBK-1143-2001, *Radiological Control Training for Supervisors*
- DOE-HDBK-1145-2001, *Radiological Safety Training for Plutonium Facilities*
- DOE-STD-3013-2000, Change Notice No. 1, *Stabilization, Packaging, and Storage of Plutonium-Bearing Materials*

DOE employees and DOE contractors may obtain copies from the ES&H Technical Information Services, U.S. Department of Energy; 1-800-473-4375, Fax 301-903-9823.

Subcontractors and the general public may obtain copies from the U.S. Department of Commerce, Technology Administration, National Technical Information Service, Springfield, Virginia 22161; 703-605-6000, Fax 703-605-6900.

Copies of DOE Technical Standards (i.e., DOE Standards, Specifications, Handbooks, and Technical Standards Lists) are also available on the TSP Web Site.

Non-Government Standards

American National Standards Institute

The American National Standards Institute (ANSI) publishes coordination activities of non-Government standards (NGS) biweekly in *ANSI Standards Action.* Recent electronic copies (no hardcopies are produced) are available on the ANSI Web site at **http://web.ansi.org/rooms/room_14/**. Back copies are available electronically to ANSI members only. For information on site membership, ask your local ANSI contact. For information on individual or group ANSI membership, contact Susan Bose at 212-642-4948 or **sbose@ansi.org**.

Hardcopy versions of published non-Government standards listed in this section may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado, 80112, 800-854-7179, Fax 303-397-2740, **global@ihs.com**, **http://global.ihs.com**. Electronic delivery of selected documents is available through ANSI at **http://webstore.ansi.org**. Copies of the listed draft standards and the procedure for commenting on them may be obtained by contacting the standards developing organization.

The following listings are extracted from *ANSI Standards Action* and are representative of NGS development activities that may be relevant to DOE operations. Refer to *ANSI Standards Action* for a more extensive listing of changes and new publications, standards developing organizations, and additional information about submitting comments. Additional information on ANSI activities and available non-Government standards can be found on the ANSI Web site, **http://www.ansi.org**, or through the National Standards System Network, **http://www.nssn.org**.

The following American National Standards are currently in coordination (comment due dates follow each entry)**:**

- API 1160, *Managing System Integrity for Hazardous Liquid Pipeline* (new standard) – October 8, 2001.
- ASHRAE 79, *Methods of Testing for Rating Fan-Coil Conditioners* (revision of ANSI/ASHRAE 79-1984 (R1991)) – September 24, 2001.
- ASME PVHO-1, Safety Standard for Pressure Vessels for Human Occupancy (revision of ANSI/ASME PVHO-1-1997 Edition) – October 23, 2001.
- ASTM A531/A531M-91, *Practice for Ultrasonic Examination of Turbine-Generator Steel Retaining Rings* (reaffirmation of ANSI/ASTM A531-91) – October 23, 2001.
- ASTM A880, *Practice for Criteria for Use in Evaluation of Testing Laboratories and Organizations for Examination and Inspection of Steel, Stainless Steel, and Related Alloys* (reaffirmation of ANSI/ASTM A880) – October 23, 2001.
- ASTM A941, *Terminology Relating to Steel, Stainless Steel, Related Alloys, and Ferroalloys* (revision of ANSI/ASTM A941-00) – October 23, 2001.
- ASTM D229, *Test Methods for Rigid Sheet and Plate Materials Used for Electrical Insulation* (revision of ANSI/ASTM D229) – October 23 2001.
- ASTM D350, *Test Methods for Flexible Treated Sleeving Used for Electrical Insulation* (revision of ANSI/ASTM D350) – October 23, 2001.
- ASTM D1867, *Specification for Copper-Clad Thermosetting Laminates for Printed Wiring* (revision of ANSI/ ASTM D1867) – October 23, 2001.
- ASTM E1205, *Practice for Use of a Ceric-Cerous Sulfate Dosimetry System* (revision of ANSI/ASTM E1205-93) – October 9, 2001.
- ASTM E1240, *Test Method for Performance Testing of Wind Energy Conversion Systems* (withdrawal of ANSI/ASTM E1240-96) – October 9, 2001.
- ASTM E1310, *Practice for Use of a Radiochromic Optical Waveguide Dosimetry System* (revision of ANSI/ ASTM E1310-94) – October 9, 2001.
- ASTM E1539, *Guide for the Use of Radiation-Sensitive Indicators* (revision of ANSI/ASTM E1539-93) – October 9, 2001.
- ASTM E1956, *Practice for Use of Thermoluminescence-Dosimetry (TLD) Systems for Radiation Processing* (new standard) – October 9, 2001.
- AWS B2.1-1-003:200X, *Standard Welding Procedure Specification (WPS) for Gas Metal Arc Welding (Short Circuiting Transfer Mode) of Galvanized Steel (M-1), 18 Gauge through 10 Gauge, in the As-Welded Condition, with or without Backing* (revision of ANSI/AWS B2.1.003-90) – October 23, 2001.
- AWS B2.1-1-004:200X, *Standard Welding Procedure Specification (WPS) for Gas Metal Arc Welding (Short Circuiting Transfer Mode) of Carbon Steel (M-1, Group 1), 18 Gauge through 10 Gauge, in the As-Welded Condition, with or without Backing* (revision of ANSI/AWS B2.1.004-90) – October 23, 2001.
- AWS B2.1-1-007:200X, *Standard Welding Procedure Specification (WPS) for Gas Tungsten Arc Welding of Galvanized Steel (M-1), 18 Gauge through 10 Gauge, in the As-Welded Condition, with or without Backing* (revision of ANSI/AWS B2.1.007-90) – October 23, 2001.
- AWS B2.1-1-008:200X, *Standard Welding Procedure Specification (WPS) for Gas Tungsten Arc Welding of Carbon Steel (M-1, P-1, or S-1), 18 Gauge through 10 Gauge, in the As-Welded Condition, with or without Backing* (revision of ANSI/AWS B2.1.008-90) – October 23, 2001.
- AWWA B100, *Filtering Material* (revision of ANSI/ AWWA B100-96) – October 23, 2001.
- AWWA C950, *Fiberglass Pressure Pipe* (revision of ANSI/AWWA C950-95) – October 9, 2001.
- B212.1a-1990, *Carbide Tips for Brazing on Turning Tools* (reaffirmation of ANSI B212.1a-1990 (R1997)) – October 23, 2001.
- EIA 364-29C (SP-4945), *Contact Retention Test Procedure for Electrical Connectors* (revision and redesignation of ANSI/EIA 364-29B-1998) – October 23, 2001.
- NFPA 54, *National Fuel Gas Code* (revision of ANSI Z223.1-1999/ANSI/NFPA 54-1999) – October 9, 2001.
- NFPA 295, *Standard for Wildfire Control* (new standard) – October 23, 2001.
- NFPA/IAPMO UMC, *Uniform Mechanical Code* (new standard) – February 1, 2002.
- NFPA/IAPMO UPC, *Uniform Plumbing Code* (new standard) – February 1, 2001.
- NSF 49 (i2), *Class II (Laminar Flow) Biohazard Cabinetry* (new standard) – September 24, 2001.
- NSF 60 (i17r3), *Drinking Water Treatment Chemicals Health Effects* (revision of ANSI/NSF 60-2000) – October 8, 2001.
- TIA/EIA 423B-1995, *Electrical Characteristics of Unbalanced Voltage Digital Interface Circuits*

(reaffirmation of ANSI/TIA/EIA 423B-1995) – October 23, 2001.

- UL 98-1995, *Enclosed and Dead-Front Switches* (revision of ANSI/UL 98-1995) – September 24, 2001.
- UL 263, *Fire Tests of Building Construction and Materials* (new standard) – October 23, 2001.
- UL 508, *Standard for Safety for Industrial Control Equipment* (revision of ANSI/UL 508-2001) – October 8, 2001.
- UL 943, *Ground-Fault Circuit Interrupters* (revision of ANSI/UL 943-1994) – October 9, 2001.
- UL 1479, *Standard for Safety for Fire Tests of Through-Penetration Firestops* (revision of ANSI/UL 1479-1995 – October 23, 2001.
- UL 2108, *Standard for Safety for Low Voltage Lighting Systems* (new standard) – October 23, 2001.
- Z244.1, *Lock Out/Tag Out of Energy Sources—Safety Requirements* (revision of ANSI Z244.1-1982 (R1993)) – October 23, 2001.

The following American National Standards have been approved for publication (Publication is to take place within six months following the date shown. Publication status and ordering information may be obtained from ANSI's Customer Service at 212-642-4900.)**:**

- ANSI S3.44-1996 (R2001), *Determination of Occupational Noise Exposure and Estimation of Noise Induced Hearing Impairment* (reaffirmation of ANSI S3.44-1996) – July 10, 2001.
- ANSI S12.9 Part 4-1996 (R2001), *Quantities and Procedures for Description and Measurement of Environmental Sound — Part 4: Noise Assessment and Prediction of Long-Term Community Response* (reaffirmation of ANSI S12.9-1996 (Part 4)) – July, 10, 2001.
- ANSI S12.17-1996 (R2001), *Impulse Sound Propagation for Environmental Noise Assessment* (reaffirmation of ANSI S12.17-1996) – July 10, 2001.
- ANSI S12.19-1996 (R2001), *Measurement of Occupational Noise Exposure* (reaffirmation of ANSI S12.19-1996) – July 10, 2001.
- ANSI/ANS 8.6-1983 (R2001), *Safety in Conducting Subcritical Neutron-Multiplication Measurements in situ* (reaffirmation of ANSI/ANS 8.6-1983 (R1995)) – July 23, 2001.
- ANSI/ANS 8.21-1995 (R2001), *Use of Fixed Neutron Absorbers in Nuclear Facilities Outside Reactors* (reaffirmation of ANSI/ ANS 8.21-1995) – July 23, 2001.
- ANSI/ANS 58.8-1994 (R2001), *Nuclear Power Plants – Time Response Design Criteria for Safety Related Operator Actions* (reaffirmation of ANSI/ANS 58.8-1994) – July 23, 2001.
- ANSI/ASME B73.5M-1995 (R2001), *Specification for Thermoplastic and Thermoset Polymer Material Horizontal End Suction Centrifugal Pumps for Chemical Process* (reaffirmation of ANSI/ASME B73.5M-1995) – July 9, 2001.
- ANSI/ASME BPVC Revision: 2001 Edition, *ASME Boiler and Pressure Vessel Code* (revision of ANSI/ ASME BPVC 1998 Edition) – August 2, 2001.
- ANSI/ASME CSD-1b-2001, *Controls and Safety Devices for Automatically Fired Boilers* (supplement to ANSI/ASME CSD-1-1998) – July 30, 2001.
- ANSI/ASME OM Code-2001, *Code for Operation and Maintenance of Nuclear Power Plants* (revision of ANSI/ASME OM Code-1998) – August 3, 2001.
- ANSI/ASME OM-S/Ga-2001, *Standards and Guides for Operation and Maintenance of Nuclear Power Plants* (supplement to ANSI/ASME OM-S/G-2000) – August 3, 2001.
- ANSI/ASTM A340-01, *Terminology of Symbols and Definitions Relating to Magnetic Testing* (revision of ANSI/ASTM A340-99A) – July 10, 2001.
- ANSI/ASTM A773/A773M-01, *Test Method for DC Magnetic Properties of Materials Using Ring and Permeameter Procedures with DC Electronic Hysteresigraphs* (revision of ANSI/ASTM A773-96) – July 10, 2001.
- ANSI/ASTM B63-01, *Test Method for Resistivity of Metallically Conducting Resistance and Contact Materials* (new standard) – July 3, 2001.
- ANSI/ASTM B77-01, *Test Method for Thermoelectric Power of Electrical-Resistance Alloys* (new standard) – July 3, 2001.
- ANSI/ASTM D6689-01, *Guide for Optimizing, Controlling and Reporting Test Method Uncertainties From Multiple Workstations in the Same Laboratory Organization* (new standard) – July 17, 2001.
- ANSI/ASTM B240-01, *Specification for Zinc and Zinc-Aluminum (ZA) Alloys in Ingot Form for Foundry and Die Castings* (revision of ANSI/ASTM B240-98) – July 3, 2001.
- ANSI/ASTM B892-01, *Specification for Zinc-Copper-Aluminum Alloy in Ingot Form for Die Castings* (revision of ANSI/ASTM B892-98) – July 3, 2001.

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- ANSI/ASTM D2384-01, *Test Methods for Traces of Volatile Chlorides in Butane-Butene Mixtures* (new standard) – July 16, 2001.
- ANSI/ASTM D3447-00a (R01), *Test Method for Purity of Trichlorotrifluoroethane* (reaffirmation of ANSI/ASTM D3447-00a) – July 17, 2001.
- ANSI/ASTM F1301-90 (R01), *Practice for Labeling Chemical Protective Clothing* (reaffirmation of ANSI/ASTM F1301-90 (R96)) – July 17, 2001.
- ANSI/ASTM F1446-01, *Test Methods for Equipment and Procedures Used in Evaluating the Performance Characteristics of Protective Headgear* (revision of ANSI/ASTM F1446-00) – July 10, 2001.
- ANSI/ASTM F1494-01, *Terminology Relating to Protective Clothing* (revision of ANSI/ASTM F1494-99) – July 17, 2001.
- ANSI/EIA 364-D-2001, *Electric Connector/Socket Test Procedures Including Environmental Classifications* (revision of ANSI/EIA 364-C-1994) – July 23, 2001.
- ANSI/IEEE 387-1995 (R2001), *Standard Criteria for Diesel-Generator Units Applied as Standby Power Supplies for Nuclear Power Generating Stations* (reaffirmation of ANSI/IEEE 387-1995) – August 2, 2001.
- ANSI/IEEE 665-1995 (R2001), *Guide for Generating Station Grounding* (reaffirmation of ANSI/IEEE 665-1995) – August 2, 2001.
- ANSI/IEEE 1159-1995 (R2001), *Recommended Practice for Monitoring Electric Power Quality* (reaffirmation of ANSI/IEEE 1159-1995) – August 2, 2001.
- ANSI N13.11-2001, *Personnel Dosimetry Performance—Criteria for Testing* (revision of ANSI N13.11-1993) – July 31, 2001.
- ANSI/NFPA 70-2001, *National Electrical Code®* (revision of ANSI/NFPA 70-1999) – August 3, 2001.
- ANSI/NFPA 655-2001, *Standard for Prevention of Sulfur Fires and Explosions* (revision of ANSI/NFPA 655-1993) – August 3, 2001.
- ANSI/NFPA 2112-2001, *Standard on Flash Fire Protective Garments for Industrial Personnel* (new standard) – August 3, 2001.
- ANSI/NFPA 2113-2001, *Standard on Selection, Care, Use, and Maintenance of Flash Fire Protective Garments* (new standard) – August 3, 2001.

The following international standards are currently in coordination (comment due dates follow each entry)**:**

- ISO/DIS 6980-2, *Nuclear energy—Reference beta particle radiations—Part 2: Calibration fundamentals related to basic quantities characterizing the radiation field* – November 17, 2001.
- ISO/DIS 7010, *Graphical symbols—Safety signs in workplaces and public areas* – October 6, 2001.
- ISO/DIS 18175, *Non-destructive testing—Evaluating performance characteristics of ultrasonic pulse-echo testing systems without the use of electronic measurement instruments* – October 27, 2001.
- ISO/DIS 19114, *Geographic information—Quality evaluation procedures* – November 20, 2001.
- prEN 379 REVIEW, *Personal eye-protection – Automatic welding filters* – December 5, 2001.
- prEN 405 REVIEW, *Respiratory protective devices—Valved filtering half masks to protect against gases or gases and particles – Requirements, testing, marking* – (for information).
- prEN 973, *Chemicals used for treatment of water intended for human consumption—Sodium chloride for regeneration of ion exchangers* – (for information).
- prEN 12255-12, *Wastewater treatment plants – Part 12: Control and automation* – December 26, 2001.
- prEN 12255-14, *Wastewater treatment plants – Part 14: Disinfection* – December 26, 2001.
- prEN 13205*, Workplace atmospheres – Assessment of performance of instruments for measurement of airborne particle concentrations* – (for information).
- prEN 13274-6, *Respiratory protective devices – Methods of test – Part 6: Determination of carbon dioxide content of the inhalation air* – (for information).
- prEN 13506, *Water quality—Determination of mercury by atomic fluorescence spectrometry* (for information).
- prEN 13965-2, *Characterization of waste – Terminology – Part 2: Management related terms and definitions* – December 5, 2001.
- prEN 14207, *Water quality—Determination of epichlorochydrin* – December 12, 2001
- prEN 14208, *Transportable gas cylinders – Specification for welded gas drums up to 3 000 litre capacity for the transport of gases – Design and construction* – December 12, 2001.

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- prEN ISO 6529, *Protective clothing—Protection against chemicals—Determination of resistance of protective clothing materials to permeation by liquids and gas* (ISO/FDIS 6529:2001) (for information).

- prEN ISO 14689, *Geotechnical engineering – Identification and description of rock* (ISO/DIS 14689:2001) – November 12, 2001.

The following newly published international standards are available:

- IEC 61264 Ed. 2.0 b:1998, *Ceramic pressurized hollow insulators for high-voltage switchgear and controlgear.*

- ISO 11461:2001, *Soil quality – Determination of soil water content as a volume fraction using coring sleeves – Gravimetric method.*

- ISO 15188:2001, *Project management guidelines for terminology standardization*.

American National Standards Projects Initiated

The following is a list of proposed new American National Standards or revisions to existing American National Standards submitted to ANSI by accredited standards developers. DOE employees or contractors interested in participating in these activities should contact the appropriate standards developing organization. DOE-TSL-4 lists the DOE representatives on NGS committees. If no DOE representative is listed, contact the TSPO for information on participating in NGS activities.

American Society for Testing and Materials
Office: 100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Fax: 610-832-9666
Contact: Faith Lanzetta, **flanzett@astm.org**

- ANSI/ASTM F1301-90 (R96), *Practice for Labeling Chemical Protective Clothing* (new standard).

American Society of Mechanical Engineers
Office: 3 Park Avenue, 20th Floor
New York, NY 10016
Fax: 212-591-8501
Contact: Calvin Gomez, **gomezc@asme.org**

- ASME A112.19.17, *Safety Vacuum Release System* (SVRS) (new standard).

National Electrical Contractors Association
Office: 3 Bethesda Metro Center, Suite 1100
Bethesda, MD 20814
Fax: 301-215-4500
Contact: Brooke Stauffer, **brooke@necanet.org**

- NECA 600, *Recommended Practice for Installing Medium Voltage Cable* (new standard).

National Fire Protection Association
Office: One Batterymarch Park
Quincy, MA 02269-9101
Fax: 617-770-3500
Contact: Arthur E. Cote, **acotet@nfpa.org**

- NFPA 16, *Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems* (revision of BSR/NFPA 16-1998).

- NFPA 80, *Standard for Fire Doors and Fire Windows* (revision of BSR/NFPA 80-1999).

- NFPA 85, *Boiler and Combustion Systems Hazards Code* (revision of BSR/NFPA 85-2001).

- NFPA 251, *Standard Methods of Tests of Fire Endurance of Building Construction and Materials* (revision of BSR/NFPA 251-1999).

- NFPA 801, *Standard for Fire Protection for Facilities Handling Radioactive Materials* (revision of BSR/NFPA 801-1998).

Underwriters Laboratories, Inc.
Office: 333 Pfingsten Road
Northbrook, IL 60004
Fax: 847-509-6217
Contact: Mitchell Gold, **Mitchell.Gold@us.ul.com**

- UL 468B, *Standard for Safety for Wire Connectors* (revision and redesignation of ANSI/UL 486A-1998).

American Society for Testing and Materials

Standards activities of the American Society for Testing and Materials (ASTM) are published monthly in ASTM *Standardization News.* Orders for subscriptions or single copies of ASTM *Standardization News* may be submitted to ASTM, Subscription Dept.-SN, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959. For information regarding ASTM membership, contact the Membership Services Department at 610-832-9691 (Fax 610-832-9667). ASTM publications may be ordered from the ASTM Customer Services Department at 610-832-9585 (Fax 610-832-9555). Comments on listed draft standards may be submitted by contacting the ASTM Standards Coordination Department at the above address. Questions may be addressed to the Technical Committee Operations Division at 610-832-9672 (Fax 610-832-9666). Additional information on ASTM activities is available on the ASTM Web site (**http://www.astm.org**). The following listings are extracted from ASTM *Standardization News* and are representative of NGS development activities that may be relevant to DOE operations.

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The following ASTM standards are currently in coordination (the due date for all items is September 10, 2001):

- D 120-95(2000), *Specification for Rubber Insulating Gloves* (revised standard).
- D 350-96, *Test Methods for Flexible Treated Sleeving Used for Electrical Insulation*.
- D 1051-95(2000), *Specification for Rubber Insulating Sleeves* (revised standard).
- G 144-96, *Test Method for Determination of Residual Contamination of Materials and Components by Total Carbon Analysis Using a High Temperature Combustion* (new standard).
- New Standard, *Practice for Application of Exterior Insulation and Finish Systems* (ref. Z8240Z).

The following newly published standards are available from ASTM:

- C 1493-01, *Test Method for Non-Destructive Assay of Nuclear Material in Waste by Passive and Active Neutron Counting Using a Differential Die-Away System* (new standard).
- D 6661-01, *Practice for Field Collection of Organic Compounds from Surfaces Using Wipe Sampling* (new standard).
- E 214-01, *Practice for Immersed Ultrasonic Examination by the Reflection Method Using Pulsed Longitudinal Waves* (revised standard).
- E 2061-01, *Guide for Fire Hazard Assessment of Rail Transportation Vehicles* (revised standard).
- E 2122-01, *Guide for Conducting In-Situ Field Bioassays with Marine, Estuarine, and Freshwater Bivalves* (new standard).
- E 2137-01, *Guide for Estimating Monetary Costs and Liabilities for Environmental Matters* (new standard).
- F 141-01, *Terminology Relating to Resilient Floor Coverings* (revised standard).
- F 412-01, *Terminology Relating to Plastic Piping Systems* (revised standard).
- F 548-01, *Test Method for Intensity of Scratches on Aerospace Transparent Plastics* (revised standard).
- G 38-01, *Practice for Making and Using C-Ring Stress-Corrosion Test Specimens* (revised standard).

Comments, Questions, and Addresses

Comments: If you have any questions or comments, please contact Rick Serbu, EH-53, Manager, DOE Technical Standards Program Office (TSPO), 301-903-2856, Fax 301-903-6172, **Richard.Serbu@eh.doe.gov**.

Addresses: *Standards Actions* and *The Standards Forum* are electronic newsletters available on the TSP Web Site (**http://tis.eh.doe.gov/techstds/**). To update your mailing and e-mail addresses, please contact Amy Bush, ORNL, 865-576-2395, Fax 865-574-8481, **bushar@ornl.gov**.

Technical Standards Activities: The TSPO would like to be kept informed of the status of technical standards that are being prepared or coordinated for DOE. Please provide this information to the TSPO at 865-576-2395, **bushar@ornl.gov**.

DOE Receives National Environmental Excellence Award for Methods Developed through the Department's Biota Dose Assessment Committee

By Stephen L. Domotor, Chair, Biota Dose Assessment Committee

The Office of Environment, Safety and Health (EH) received a National Environmental Excellence Award from the National Association of Environmental Professionals (NAEP) for the Department of Energy's (DOE) *Graded Approach for Evaluating Radiation Doses to Aquatic and Terrestrial Biota.* The graded approach to biota dose evaluation was developed by EH's Office of Environmental Policy and Guidance through the Department's Biota Dose Assessment Committee (BDAC)—a topical committee organized under the DOE Technical Standards Program (TSP). The NAEP's National Environmental Excellence Awards competition recognizes projects and programs from across the nation that serve as models of excellence and stand out as significant contributions in the environmental professions.

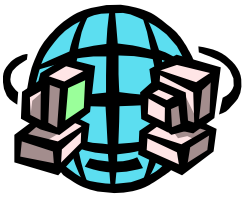
The graded approach to biota dose evaluation is responsive to growing regulatory and stakeholder interest in the protection of ecological resources from the effects of radiation. Radiation protection of the environment (biota and ecosystems) is a consideration in decisions regarding the cleanup and long-term stewardship of radiologically contaminated sites. No standardized methods have been available for evaluating doses to biota either nationally or internationally. In response to this need, DOE has developed cost-effective and innovative methods for use in demonstrating compliance with DOE and internationally recommended biota dose limits, and for conducting ecological screening assessments of radiological impact.

Steven Cary (right), Acting Assistant Secretary for Environment, Safety and Health, receives an NAEP Environmental Excellence Award from Bruce Hasbrouck, President of the National Association of Environmental Professionals.

DOE's graded approach for compliance features a standardized screening process in which radionuclide concentrations in environmental media are compared to a set of "first of a kind" Biota Concentration Guides (BCGs) derived by DOE. Each radionuclide-specific BCG represents the radionuclide concentration in soil, sediment and water that would not result in DOE's biota dose limits to be exceeded. If needed, a site-specific screening phase and site-specific analysis phase are also provided. Methods are provided in a DOE Technical Standard document and a "RAD-BCG Calculator" which provides users with a computer-based tool for progressing through the evaluation.

Regarding DOE's graded approach to biota dose evaluation, the NAEP stated that "in developing this standardized process, the DOE is providing significant leadership in showing how compliance with recommended biota dose limits can be effectively demonstrated. When the consensus-based process that includes the developers and the users of the methodology which support the program is combined with the notable support from recognized experts in the United States and internationally, the program becomes an obvious example of outstanding environmental management and a recipient of the NAEP National Environmental Excellence Award." Mr. Steven Cary, DOE's Acting Assistant Secretary for Environment, Safety and Health, accepted the award at the NAEP Conference held in Arlington, Virginia, June 24–28, 2001.

The graded approach to biota dose evaluation is already being implemented at many DOE sites and has received strong interest from other Federal agencies, State agencies, the private sector, and international organizations. An interim version of the technical standard, RAD-BCG Calculator, and information on activities of the Department's Biota Dose Assessment Committee can be downloaded from the BDAC Web site (**http://homer.ornl.gov/oepa/public/bdac**). The BDAC expects to complete a final version of the technical standard for DOE-TSP approval by the end of 2001. Contact Stephen Domotor (**Stephen.Domotor@eh.doe.gov**; BDAC chairperson) for additional information.



DOE-VPP Initiates New Information Portal

The Department of Energy Voluntary Protection Program (DOE-VPP) recently launched its new information portal. The DOE-VPP Information Portal is designed to provide real time information to the DOE-VPP community on both emerging VPP-related issues and innovative safety and health program improvements, both within the DOE and the private sector.

The DOE-VPP promotes safety and health excellence through cooperative efforts among labor, management, and government at DOE contractor sites. The Department initiated its VPP in January 1994 to promote improved safety and health performance through public recognition of outstanding programs. The DOE-VPP has two levels of recognition, GOLD and SILVER STARS. Contractors whose programs meet the requirements for outstanding safety and health programs receive GOLD STAR recognition, the highest achievement level. Contractors with highly effective programs, who commit themselves to attain STAR status within a five-year period, receive SILVER recognition.

The new DOE-VPP Information Portal is designed to promote cooperative interaction and information sharing between the DOE-VPP Federal and contractor partners with the goals of:

- generating greater awareness of the wide range of available VPP assets across the DOE complex;
- promoting broader views and approaches to VPP;
- facilitating outreach across the Department and the private sector; and
- enhancing knowledge and experience for use in future VPP projects.

The DOE-VPP site provides a hyperlink index of the new DOE-VPP *Program Manual*, VPP-related news and articles, the latest DOE-VPP contact information, an inventory of VPP-related tools and processes from across the DOE complex, and a complex-wide calendar of VPP-related events. Plans are underway to create a discussion forum where DOE-VPP community members, both Federal and contractors, will be able to collaborate in a real-time, on-line environment. You can visit the new DOE-VPP Information Portal at **http://www.eh.doe.gov/Vpp/index.html**.

Topical Committee Developments

In the December 2000 issue of *The Standards Forum,* the Technical Standards Program Office issued a call for a group of subject matter experts to form a topical committee (TC) to address software quality assurance (SQA) deficiencies identified by the Defense Nuclear Facilities Safety Board (DNFSB) in their report entitled *Quality Assurance for Safety-Related Software at Department of Energy Defense Nuclear Facilities*. The DNFSB suggested that little progress was being made to address the problems associated with the infrastructure supporting SQA because no component of senior DOE management has accepted responsibility for the function of SQA.

The Software Quality Assurance Subcommittee (SQAS) was established about 1988 by the DOE Nuclear Weapons Complex (NWC) Quality Managers, in conjunction with the DOE Operations Quality Managers, to identify and resolve software quality issues and problems common to all DOE sites and facilities. This group has confined its interests primarily to NWC issues and has been addressing current concerns of the DNFSB. Since the Subcommittee is an established group with a published charter on the Internet, it is a prime candidate to organize as a TC. An effort is underway to accomplish this through a project that would allow the group to expand its reach beyond the NWC to non-weapons facilities. A discussion is proceeding with leaders of the SQAS about the advantages and disadvantages of organizing as a TC.

The current TSP Quality Assurance (QA) TC (which evolved out of the original TRADE QA SIG that principally dealt with training issues) has interests bordering on the area of SQA, especially when dealing with non-government standards development organizations. The SQAS activities and functions will need to be coordinated with the TSP QA TC. Coordination and a healthy collaboration between a SQAS TC and the TSP QA TC would be encouraged. It is recognized that both the SQAS and the TSP QA TC can provide a viable and useful forum for their groups of subject matter experts. The two TCs would complement each other, but would be independent organizations. This is particularly important since the SQAS has existing relationships with site and facility Quality Managers that are above and beyond any standards activities it might undertake as a TC.

Subject matter experts outside the NWC with expertise in SQA are encouraged to contact the SQAS by exploring its Home Page at **http://cio.doe.gov/sqas/** and contacting M. Norman Schwartz, 301-903-2996, **Norm.Schwartz@eh.doe.gov**, or Richard Serbu, 301-903-2856, **Richard.Serbu@eh.doe.gov**.

The World of Standards—

NEWS BRIEFS

Draft of Joint ISO 9000 and ISO 14000 Audit Standard Published

The International Organization for Standardization (ISO) has published the draft of a new standard for auditing both ISO 9000 (quality) and ISO 14000 (environmental) management systems. The new standard, which is now available to the public, will replace six existing ones in the ISO 9000 and ISO 14000 families. It will complete the ISO 9000 "core series" also comprising the revised ISO 9000, ISO 9001 and ISO 9004, published in December 2000. The new standard will help user organizations to optimize their management systems, facilitate the integration of quality and environmental management, and save money and decrease disruption of work units being audited by allowing single audits of both systems.

The development of ISO 19011 is being carried out by a joint working group (JWG) set up by two subcommittees of the ISO technical committees ISO/TC 176, Quality Management and Quality Assurance, and ISO/TC 207, Environmental Management. The draft ISO/DIS 19011, *Guidelines for quality and/or environmental management systems auditing,* was published on 31 May 2001 and has been distributed to ISO's members for a five-month ballot, closing on 31 October 2001. If approved, the document will subsequently be published, with modifications resulting from comments received, as a Final Draft International Standard for a further ballot. Its publication as a fully-fledged International Standard is expected in 2002.

You can find out more about ISO/DIS 19011 at **http://www.iso.ch/iso/en/commcentre/pressreleases/2001/Ref794.html**. The new standard can be purchased from ISO national member institutes, which are listed with full contact details on the ISO Web site (**http://www.iso.ch**), or from ISO Central Secretariat (**sales@iso.ch**).

NIST Grant to Help Advance National Standards Strategy

The National Institute of Standards and Technology (NIST) has recently awarded a $500,000 annual grant to the American National Standards Institute (ANSI) to support international standardization and conformity assessment activities influencing international trade and regulations and to help advance the aims of a recently adopted U.S. National Standards Strategy (NSS).

The NSS, which was developed by public and private sector representatives of the standards community under ANSI's leadership, was approved on August 31, 2000.

In keeping with NSS key objectives, ANSI says it will allocate NIST grant funds to initiatives such as outreach and education. Monies also will be used to identify opportunities to ensure that U.S. technology, standards, and standards-development processes receive fair consideration from other nations and regions.

Education initiatives will include training sessions for U.S. participants in standards bodies such as the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), and for representatives of developing nations that trade with the United States. ANSI also will provide training to acquaint other nations with the U.S. standards and conformity assessment system. Another activity will help standards personnel in developing countries acquire the skills and knowledge necessary to host the secretariats (or administrative headquarters) of committees that develop standards for international use. The Western Hemisphere and Asia-Pacific region will be the primary focus of these efforts.

For more information, contact Walter Leight, NIST Office of Standards Services (301-975-4010; **walter.leight@nist.gov**). At ANSI, contact Stacy Leistner (212-642-4931; **sleistne@ansi.org**) or Joseph Tretler (212-642-4977; **jtretler@ansi.org**).

NFPA Standards Council Issues 2002 Edition of the National Electrical Code®

The National Fire Protection Association (NFPA) Standards Council has issued the 2002 edition of the National Electrical Code® (NEC®). The new edition includes more than 300 significant changes to the 1999 edition and marks the 49th edition of the NEC. The changes make the NEC more user-friendly and inter-

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nationally compatible. Five new articles distinguish the new NEC: administrative provisions; transient voltage surge suppression; sensitive electronic equipment; fuel cells; and receptacles, cord connectors and attachment plugs. For more information, visit NFPA's Web site at **http://www.nfpa.org**.

NFPA to Launch New Magazine to Complement National Electric Code

At its World Fire Safety Congress & Exposition™ in May, the National Fire Protection Association (NFPA) announced the launch of a new magazine for the electrical community, *necdigest*™. The magazine, a complement to the NFPA's National Electrical Code, will debut this fall.

The industry publication will cover electrical safety and topics such as code updates and changes, code committee activity, compliance issues, facility security, fire alarm systems, and low-voltage wiring. Also included in each issue will be new products, training opportunities, and general industry news.

For more information on *necdigest*, you can contact NFPA's Group Publisher, Tony Johnson (617-984-7062). For submissions, contact *necdigest* Editorial Director, Jenna Padula (617-984-7320).

IEEE Creates National Electrical Safety Code® Zone

The Institute of Electrical and Electronics Engineers (IEEE) has established an online resource to help answer questions about the National Electrical Safety Code (NESC), which is published by IEEE. The purpose of the NESC is the practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communications lines and associated equipment. It contains the basic provisions that are considered necessary for the safety of employees and the public under specified conditions. The NESC Zone includes information about the development and implementation of the NESC and can be found at **http://standards.ieee.org/nesc/**.

IAEA Releases New Safety Guide

The International Atomic Energy Agency (IAEA) has released a new safety guide, *Building Competence in Radiation Protection and the Safe Use of Radiation Sources*. The new safety guide makes recommendations concerning the building of competence in protection and safety within a national radiation protection infrastructure and provides guidance for setting up the structure for a national strategy. It addresses the training and assessment of qualification of new personnel and the retraining of existing personnel in order to develop and maintain appropriate levels of competence. It provides the necessary guidance to meet the requirements as laid down in Safety Series No. 115, *International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources* (1996). For further information about this new safety guide, visit the IAEA Web site **http://www.iaea.org/worldatom/Books/NewReleases/book21.shtml**.

ASTM Initiates Development of Standard Guide for the Use of Data-Quality Objectives for Site Assessments

The American Society for Testing and Materials (ASTM) Subcommittee E50.04 on Performance Standards Related to Environmental Regulatory Programs has initiated the development of a Standard Guide for the Use of Data-Quality Objectives for Site Assessments. The proposed standard is being developed to assist public and private-sector organizations using risk-based corrective action to address chemical releases under the auspices of voluntary clean-up, brownfields, and similar programs.

The purpose of the Standard Guide for the Use of Data-Quality Objectives for Site Assessments is to provide users with information on (1) determining the proper number of samples to be collected for adequate site characterization; (2) determining the defensibility of laboratory analyses; and (3) determining data gaps that may lead to erroneous decisions.

If you would like to participate or comment on this activity, contact the Subcommittee chairman, Paul Sonnenfeld, Los Angeles, California (310-470-5421; **sarahspop@earthlink.net**).

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NIST Creates "Information for Industry" Web Site

The National Institute of Standards and Technology (NIST) has created a new "Information for Industry" Web site at **http://www.nist.gov/public_affairs/industry.htm** to help industry personnel find the specific NIST standard, measurement, or technology they need with minimal effort. At the site, you can follow links to learn about NIST's work in nine different industry sectors—aerospace, automotive, chemical processing, communications, computers, construction, electronics, health care, and manufacturing.

NIST Launches Web-Based Tool: e-Baldridge Organizational Profile

The National Institute of Standards and Technology (NIST) has launched a Web-based tool called e-Baldrige Organizational Profile that can help determine whether an organization is ready to use the performance excellence criteria for the Malcolm Baldrige National Quality Award as a way to assess and improve performance. Using e-Baldrige takes only a few minutes, and you receive a comparison of your organization with others who have taken the challenge. It may help you identify gaps and develop action plans to address opportunities for improvement. In conjunction with this tool, a beginner's manual to the Baldrige process called *Getting Started with the Baldrige National Quality Program* has been updated. To access the e-Baldrige Organizational Profile, visit **http://www.quality.nist.gov/eBaldrige/Step_One.htm**.

ASTM Subcommittee on Advanced Ceramics Properties and Performance Conducts Survey

Subcommittee on Advanced Ceramics Properties and Performance of the American Society for Testing and Materials (ASTM) Committee C28 on Advanced Ceramics is conducting a survey of the advanced ceramics community to determine the current status of and the need for high-temperature oxidation test standards for advanced ceramics. If you are a user-supplier/evaluator of high-temperature ceramics and wish to participate in the survey, contact the chairman of the subcommittee, Dr. Steve Gonczy, Gateway Materials Technology, Mount Prospect, Illinois (847-870-1621; **gatewaymt@aol.com**).

NIST and USFA Launch Online Newsletter

In response to a call by the International Association of Fire Chiefs, the National Institute of Standards and Technology (NIST) and the United States Fire Administration (USFA) have launched an online newsletter, FIRE.GOV. The free quarterly publication provides information about research activities that could impact firefighting safety and effectiveness. Firefighters can interact directly with the researchers via the contact information that is provided.

The first issue includes reports on techniques for measuring the performance of protective clothing, the fire suppression effectiveness of compressed air foam, the search for an environmentally friendly suppressant for liquid fuel fires, as well as an account of scientific forums on urban/wildland firefighting technology. Future issues will consider other non-commercial fire research activities performed by government, universities, industry and fire departments.

The newsletter can be viewed at **http://www.fire.gov** in HTML or downloaded in a PDF version. If you would like delivery of new issues via e-mail, you can subscribe to FIRE.GOV online. For more information, contact FIRE.GOV editor Dave Evans (301-975-6897; **dave.evans@nist.gov**).

International Federation of Standards Users Invites Standards Users to Participate in Survey

The International Federation of Standards Users (IFAN), as a representative of standards users worldwide, has announced that it is conducting a survey on the use of international standards. IFAN is an independent, non profit-making international association of national organizations for the application of standards, companies, professional and trade associations, and governmental agencies concerned with the use of standards. If you would like to complete the survey, visit the IFAN Web site at **http://www2.iso.ch/isoportal/livelink/fetch/2000/2035/36282/36500/index.htm**.

Upcoming Meetings and Conferences of Interest

September 5–7, 2001

Nanostructure Science, Metrology, and Technology

National Institute of Standards and Technology—Gaithersburg, Maryland

For more information, visit **http://www.nist.gov/public_affairs/confpage/010905.htm**.

September 13–14, 2001

2001 Measurement Quality Conference

National Institute of Standards and Technology, Green Auditorium—Gaithersburg, Maryland

For more information, visit **http://www.nist.gov/public_affairs/confpage/010913b.htm**.

September 21–28, 2001

National Safety Council Congress & Expo 2001: The Odyssey Starts Here

Georgia World Congress Center—Atlanta, Georgia

Sponsored by the National Safety Council

Visit **http://www.congress.nsc.org** for more information.

September 23–25, 2001

Communicating the Future: Best Practices for Communication of Science and Technology to the Public

National Institute of Standards and Technology, Green Auditorium—Gaithersburg, Maryland

Sponsored by U.S. Department of Energy and the National Institute of Standards and Technology

For additional information, visit **http://www.nist.gov/public_affairs/confpage/010923.htm**.

September 23–27, 2001

The Sixth World Congress of Chemical Engineering

Melbourne, Australia

Sponsored by the American Institute of Chemical Engineers

For additional information, visit **http://www.aiche.org/worldcongress/**.

September 27–28, 2001

10th International Conference of Standards Users

Berlin, Germany

Hosted by IFAN and DIN

For more information, visit **http://www.ifan2001.org**.

October 8–12, 2001

World Standards Week—The Environment

Washington, D.C.

For more information, visit **http://www.ansi.org/rooms/room_5/default.htm**.

October 10–11, 2001

American National Standards Institute (ANSI) Annual Conference, "Priority 2001 Global Standardization—Global Trade

Washington, D.C.

For more information, contact ANSI's membership services at 212-642-4900.

October 17–19, 2001

Meeting OSHA Requirements with NFPA Codes and Standards

Minneapolis, Minnesota

For additional information, visit **http://www.nfpa.org/prodev2/OSHA_Conference/osha_conference.html**.

October 22–23, 2001

2001: A Quality Odyssey—Southeastern Quality Conference

Cobb Galleria Centre—Atlanta, Georgia

For more information, contact Larry Aft, 770-528-7242, **laft@spsu.edu**.

October 29–31, 2001

Tenth Annual Meeting of the Council on Ionizing Radiation Measurements and Standards

National Institute of Standards and Technology—Gaithersburg, Maryland

For more information, visit **http://www.nist.gov/public_affairs/confpage/011031.htm**.

November 11–15, 2001

American Nuclear Society 2001 Winter Meeting—Nuclear Research and Development

Reno Hilton Hotel—Reno, Nevada

For additional information, visit **http://www.ans.org/meetings/epr/wm2001/**.

November 11–16, 2001

2001 ASME International Mechanical Engineering Congress & Exposition: Focus on Nanotechnology

Hilton New York, Sheraton New York & Towers—New York, New York

Visit **http://www.asmeconferences.org/congress01/** for additional information.